



ENVIRONMENTAL ENGINEERING, INC

6620 Owens Drive, Suite A • Pleasanton, CA 94588-3334

TEL (925) 734-6400 • FAX (925) 734-6401

December 13, 2005

Ms. Darcy Bering  
Sonoma County Department of Env. Health  
3273 Airway Drive, Suite D  
Santa Rosa, California 95403

Subject: SCDHS-EHD Site #00002640  
3705 Gravenstein Highway South, Sebastopol, California

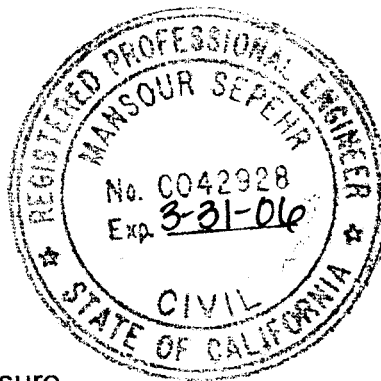
Dear Ms. Bering:

Enclosed for your review is a copy of SOMA's "Fourth Quarter 2005 Groundwater Monitoring Report" for the subject property.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have any questions or comments.

Sincerely,

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist



Enclosure

cc: Mr. Chris Ghanayem w/enclosure



ENVIRONMENTAL ENGINEERING, INC  
6620 Owens Drive, Suite A • Pleasanton, CA 94588-3334  
TEL (925)734-6400 • FAX(925)734-6401

## **Fourth Quarter 2005 Groundwater Monitoring Report**

**Bill's Deli and Market**  
**3705 Gravenstein Highway, South**  
**Sebastopol, California 95472**

December 13, 2005

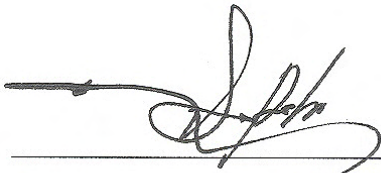
Project 2871

Prepared for  
**Mr. Chris Ghanayem**  
**3705 Gravenstein Highway, South**  
**Sebastopol, California 95472**

Prepared by  
**SOMA Environmental Engineering, Inc.**  
**6620 Owens Drive, Suite A**  
**Pleasanton, California 94588**

## Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Chris Ghanayem, the property owner of Bill's Deli and Market, which is located at 3705 Gravenstein Highway South, Sebastopol, California, to comply with the Sonoma County Department of Environmental Health's and California Regional Water Quality Control Board's requirements for the Fourth Quarter 2005 groundwater monitoring event.



Mansour Sepehr, Ph.D., P.E.  
Principal Hydrogeologist



## TABLE OF CONTENTS

|  |     |
|--|-----|
| Certification.....                     | i   |
| TABLE OF CONTENTS .....                | ii  |
| List of Tables.....                    | iii |
| List of Figures .....                  | iii |
| List of Appendices.....                | iii |
| 1.0 INTRODUCTION .....                 | 1   |
| 1.1 Previous Activities .....          | 1   |
| 2.0 RESULTS .....                      | 2   |
| 2.1 Field Measurements .....           | 2   |
| 2.2 Laboratory Analyses.....           | 2   |
| 3.0 CONCLUSIONS & RECOMMENDATIONS..... | 3   |
| 4.0 REPORT LIMITATIONS .....           | 3   |

## **List of Tables**

- Table 1: Historical Groundwater Elevation Data &  
Analytical Results: TPH-g, BTEX, & MtBE
- Table 2: Historical Groundwater Analytical Results: Gasoline Oxygenates,  
Ethanol, Lead Scavengers

## **List of Figures**

- Figure 1: Site vicinity map.
- Figure 2: Site map showing location of groundwater monitoring wells
- Figure 3: Groundwater elevation contour map in feet. November 2005.
- Figure 4: Contour map of MtBE concentrations in the groundwater (EPA Method 8260B). November 2005.

## **List of Appendices**

- Appendix A: SOMA's Groundwater Monitoring Procedures
- Appendix B: Field measurements of physical and chemical properties of the  
groundwater samples collected during the Fourth Quarter 2005
- Appendix C: Chain of Custody Form and Laboratory Report for the Fourth  
Quarter 2005 Monitoring Event

## **1.0 INTRODUCTION**

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Mr. Chris Ghanayem, the property owner of Bill's Deli and Market, which is located at 3705 Gravenstein Highway South, Sebastopol, California ("the Site"), as shown in Figure 1. The Site is currently an active gasoline station and convenience market. The Site is located in an area consisting primarily of small commercial and rural residential properties.

This report summarizes the results of the Fourth Quarter 2005 groundwater monitoring event conducted at the Site on November 1, 2005. Included in this report are the physical and chemical properties measured in the field for each groundwater sample. The physical and chemical properties consisted of measurements of pH, temperature, and electrical conductivity (EC). This report also includes laboratory analytical results on the groundwater samples.

These activities were performed in accordance with the general guidelines of the Sonoma County Department of Environmental Health and the California Regional Water Quality Control Board (CRWQCB). Appendix A details the groundwater monitoring procedures used during the Fourth Quarter 2005 monitoring event.

### **1.1 Previous Activities**

In March 1997, DHS Contractors and Touchstone Development removed three 10,000-gallon gasoline single-walled steel underground storage tanks (USTs) from the Site. Product lines and the pump island were also removed during the tank removal activities. Soil samples were collected from the excavation pits. Sonoma County Public Health Department official John Anderson was present during these removal and sampling events. The fuel USTs showed no visible holes or damage. Figure 2 shows the location of the USTs.

The soil and groundwater samples collected from the bottom of the excavated UST cavity, pump island, and product lines were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, total xylenes (BTEX), Methyl tertiary Butyl Ether (MtBE), and lead. Both TPH-g and MtBE were detected at 160 parts per million in the groundwater sample. MtBE was detected at 190 parts per billion in the soil sample collected from the removed product line adjacent to the pump island.

The Site has been monitored on a quarterly basis since December 2000. Historically, TPH-g and BTEX groundwater constituents have remained below the laboratory reporting limit. MtBE groundwater constituents have either been at non-detectable laboratory levels or near non-detectable laboratory levels.

In March 2004, Jim Glomb Geotechnical and Environmental Consulting of Sebastopol, California installed five additional wells (MW-4 through MW-8) at the Site. Figure 2 shows the locations of the monitoring wells.

## **2.0 RESULTS**

The following sections provide the results of the field measurements and laboratory analyses for the November 1, 2005 groundwater monitoring event. Well MW-1 has remained inaccessible due to soil covering the well from construction activities.

### **2.1 Field Measurements**

Table 1 presents the calculated groundwater elevations, as well as the depth to groundwater in each monitoring well. The depths to groundwater ranged from 6.32 feet in well MW-8 to 11.08 feet in well MW-4. The corresponding groundwater elevations ranged from 90.89 feet in well MW-7 to 92.46 feet in well MW-8. Well MW-5 is initially screened at an approximate depth of 40 feet below ground surface (bgs); the remaining site wells are all screened at initial depths of approximately 5 to 10 feet bgs.

Figure 3 displays the contour map of the groundwater elevations. Based on the data measured, the groundwater flows south to southwesterly across the Site at a gradient of 0.005 feet/feet. There appears to be mounding at MW-8; this may be attributed to the local recharge rate in this well. The groundwater elevation in well MW-8 was not used for contouring purposes.

Appendix B shows the field measurements taken during the Fourth Quarter 2005 groundwater monitoring event. No field measurements were taken for well MW-1.

### **2.2 Laboratory Analyses**

Based on the approval of the Sonoma County Department of Environmental Health Division, in a letter dated October 25, 2005, MtBE is the only constituent needed for analysis during quarterly monitoring events, with the exception of TBA in well MW-8.

MtBE was below the laboratory reporting limit in the groundwater samples collected from wells MW-4 to MW-6. Detectable MtBE concentrations ranged from 2.35 ug/L in well MW-7 to 38.6 ug/L in well MW-8. TBA was below the laboratory reporting limit in well MW-8. Tables 1 and 2 show the historical groundwater analytical data for the quarterly monitoring events. Figure 4 displays the contour map of MtBE concentrations in the groundwater.

Appendix C shows the groundwater laboratory report for the Fourth Quarter 2005 monitoring event.

### **3.0 CONCLUSIONS & RECOMMENDATIONS**

The findings of the Fourth Quarter 2005 groundwater monitoring event can be summarized as follows:

- The groundwater flow direction still remains southwesterly across the Site. The groundwater elevation in well MW-8 was not completely representative of the overall site trend. Since the previous monitoring event, the average site wide groundwater elevation decreased approximately 2.6 feet, with the highest deviation occurring in well MW-5 at 4.77 feet. However, only a slight deviation in groundwater elevation was observed in well MW-8.
- MtBE was the only tested constituent, with the exception of TBA for well MW-8. MtBE has remained at trace concentrations or below the laboratory reporting limit throughout the Site.

Based on the approved workplan, SOMA is planning to install off-site groundwater monitoring wells in order to better define the MtBE plume in the southwestern section of the Site.

### **4.0 REPORT LIMITATIONS**

This report is the summary of work done by SOMA, including observations and descriptions of the Site's conditions. It includes the analytical results produced by Pacific Analytical Laboratory for the current groundwater monitoring event. The number and location of the wells were selected to provide the required information, but may not be completely representative of the entire site's conditions. All conclusions and recommendations are based on the results of the laboratory analysis. Conclusions beyond those specifically stated in this document should not be inferred from this report.

SOMA warrants that the services provided were done in accordance with the generally accepted practices in the environmental engineering and consulting field at the time of this sampling.



# Tables

**Table 1**  
**Historical Groundwater Elevation Data & Analytical Results**  
**TPH-g, BTEX, & MtBE**  
**Bill's Deli and Market**  
**3705 Gravenstein Hwy. South, Sebastopol, California**

| Monitoring Well | Date   | Casing Elevation (feet) | Depth to Groundwater (feet) | Groundwater Elevation (feet) | TPH-g (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-Benzene (µg/L) | Total Xylenes (µg/L) | MtBE 8260B (µg/L) |
|-----------------|--------|-------------------------|-----------------------------|------------------------------|--------------|----------------|----------------|----------------------|----------------------|-------------------|
| MW-1            | Mar-04 | 101.69                  | 4.30                        | 97.39                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | <1.0              |
|                 | Nov-04 | 101.69                  | NM                          | NM                           | NA           | NA             | NA             | NA                   | NA                   | NA                |
|                 | Feb-05 | 101.69                  | NM                          | NM                           | NA           | NA             | NA             | NA                   | NA                   | NA                |
|                 | May-05 | 101.69                  | NM                          | NM                           | NA           | NA             | NA             | NA                   | NA                   | NA                |
|                 | Aug-05 | 101.69                  | NM                          | NM                           | NA           | NA             | NA             | NA                   | NA                   | NA                |
|                 | Nov-05 | 101.69                  | NM                          | NM                           | NA           | NA             | NA             | NA                   | NA                   | NA                |
| MW-2            | Mar-04 | 101.08                  | 2.90                        | 98.18                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | 11                |
|                 | Nov-04 | 101.08                  | 10.09                       | 90.99                        | <50          | <0.5           | <0.5           | <0.5                 | <1                   | 49                |
|                 | Feb-05 | 101.08                  | 3.02                        | 98.06                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 12.40             |
|                 | May-05 | 101.08                  | 4.00                        | 97.08                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 3.66              |
|                 | Aug-05 | 101.08                  | 7.29                        | 93.79                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | 1.24              |
|                 | Nov-05 | 101.08                  | 9.63                        | 91.45                        | NA           | NA             | NA             | NA                   | NA                   | 12                |
| MW-3            | Mar-04 | 100.82                  | 3.75                        | 97.07                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | 15                |
|                 | Nov-04 | 100.82                  | 9.87                        | 90.95                        | <50          | <0.5           | <0.5           | <0.5                 | <1                   | 126               |
|                 | Feb-05 | 100.82                  | 2.56                        | 98.26                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 4.70              |
|                 | May-05 | 100.82                  | 2.92                        | 97.90                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 6.45              |
|                 | Aug-05 | 100.82                  | 7.61                        | 93.21                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | 9.96              |
|                 | Nov-05 | 100.82                  | 9.6                         | 91.22                        | NA           | NA             | NA             | NA                   | NA                   | 2.60              |
| MW-4            | Mar-04 | 102.36                  | 2.75                        | 99.61                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | <1.0              |
|                 | Nov-04 | 102.36                  | 11.39                       | 90.97                        | <50          | <0.5           | <0.5           | <0.5                 | <1                   | <0.5              |
|                 | Feb-05 | 102.36                  | 2.04                        | 100.32                       | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | May-05 | 102.36                  | 3.79                        | 98.57                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | Aug-05 | 102.36                  | 8.95                        | 93.41                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | <0.5              |
|                 | Nov-05 | 102.36                  | 11.08                       | 91.28                        | NA           | NA             | NA             | NA                   | NA                   | <0.5              |
| MW-5            | Mar-04 | 100.60                  | 3.60                        | 97.00                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | <1.0              |
|                 | Nov-04 | 100.60                  | NM                          | NM                           | NA           | NA             | NA             | NA                   | NA                   | NA                |
|                 | Feb-05 | 100.60                  | 3.46                        | 97.14                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | May-05 | 100.60                  | 3.75                        | 96.85                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | Aug-05 | 100.60                  | 4.69                        | 95.91                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | <0.5              |
|                 | Nov-05 | 100.60                  | 9.46                        | 91.14                        | NA           | NA             | NA             | NA                   | NA                   | <0.5              |

**Table 1**  
**Historical Groundwater Elevation Data & Analytical Results**  
**TPH-g, BTEX, & MtBE**  
**Bill's Deli and Market**  
**3705 Gravenstein Hwy. South, Sebastopol, California**

| Monitoring Well | Date          | Casing Elevation (feet) | Depth to Groundwater (feet) | Groundwater Elevation (feet) | TPH-g (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-Benzene (µg/L) | Total Xylenes (µg/L) | MtBE 8260B (µg/L) |
|-----------------|---------------|-------------------------|-----------------------------|------------------------------|--------------|----------------|----------------|----------------------|----------------------|-------------------|
| <b>MW-6</b>     | Mar-04        | 99.72                   | 3.85                        | 95.87                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | <1.0              |
|                 | Nov-04        | 99.72                   | 8.76                        | 90.96                        | <50          | <0.5           | <0.5           | <0.5                 | <1                   | <0.5              |
|                 | Feb-05        | 99.72                   | 1.93                        | 97.79                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | May-05        | 99.72                   | 2.77                        | 96.95                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | Aug-05        | 99.72                   | 6.15                        | 93.57                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | <0.5              |
|                 | <b>Nov-05</b> | <b>99.72</b>            | <b>8.58</b>                 | <b>91.14</b>                 | <b>NA</b>    | <b>NA</b>      | <b>NA</b>      | <b>NA</b>            | <b>NA</b>            | <b>&lt;0.5</b>    |
| <b>MW-7</b>     | Mar-04        | 99.30                   | 4.10                        | 95.20                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | <1.0              |
|                 | Nov-04        | 99.30                   | 8.35                        | 90.95                        | <50          | <0.5           | <0.5           | <0.5                 | <1                   | 4.8               |
|                 | Feb-05        | 99.30                   | 2.09                        | 97.21                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 0.86              |
|                 | May-05        | 99.30                   | 2.40                        | 96.90                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | <0.5              |
|                 | Aug-05        | 99.30                   | 6.39                        | 92.91                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | 1.31              |
|                 | <b>Nov-05</b> | <b>99.30</b>            | <b>8.41</b>                 | <b>90.89</b>                 | <b>NA</b>    | <b>NA</b>      | <b>NA</b>      | <b>NA</b>            | <b>NA</b>            | <b>2.35</b>       |
| <b>MW-8</b>     | Mar-04        | 98.78                   | 3.20                        | 95.58                        | <50          | <0.5           | <0.5           | <0.5                 | <1.5                 | 44                |
|                 | Nov-04        | 98.78                   | 6.44                        | 92.34                        | <50          | <0.5           | <0.5           | <0.5                 | <1                   | 59                |
|                 | Feb-05        | 98.78                   | 2.53                        | 96.25                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 69                |
|                 | May-05        | 98.78                   | 3.24                        | 95.54                        | <200         | <0.5           | <0.5           | <0.5                 | <1.0                 | 61.8              |
|                 | Aug-05        | 98.78                   | 6.42                        | 92.36                        | <50          | <0.5           | <2.0           | <0.5                 | <1.0                 | 38                |
|                 | <b>Nov-05</b> | <b>98.78</b>            | <b>6.32</b>                 | <b>92.46</b>                 | <b>NA</b>    | <b>NA</b>      | <b>NA</b>      | <b>NA</b>            | <b>NA</b>            | <b>38.6</b>       |

Notes:

The first time SOMA monitored this site was in the Fourth Quarter 2004.

NA: Not Analyzed. well MW-1 was buried due to construction activities, and MW-5 was inaccessible due to blockage at 5 feet bgs.

NM: Not Measured.

By request of Sonoma County Department of Health Services only MtBE was required in the Fourth Quarter 2005.

**Table 2**  
**Historical Groundwater Analytical Results**  
**Gasoline Oxygenates, Ethanol, Lead Scavengers**  
**Bill's Deli and Market**  
**3705 Gravenstein Hwy. South, Sebastopol, California**

| Monitoring Well | Date   | TBA<br>(µg/L) | DIPE<br>(µg/L) | ETBE<br>(µg/L) | TAME<br>(µg/L) | Ethanol<br>(µg/L) | 1,2-DCA<br>(µg/L) | EDB<br>(µg/L) |
|-----------------|--------|---------------|----------------|----------------|----------------|-------------------|-------------------|---------------|
| MW-1            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
|                 | Feb-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
|                 | May-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
|                 | Aug-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
| MW-2            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | <2.5          | <0.5           | <0.5           | <0.5           | <1000             | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | <10           | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
| MW-3            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | <2.5          | <0.5           | <0.5           | <0.5           | <1000             | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | <10           | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
| MW-4            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | <2.5          | <0.5           | <0.5           | <0.5           | <1000             | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | <10           | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
| MW-5            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | NA            | NA             | NA             | NA             | NA                | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | <10           | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |

**Table 2**  
**Historical Groundwater Analytical Results**  
**Gasoline Oxygenates, Ethanol, Lead Scavengers**  
**Bill's Deli and Market**  
**3705 Gravenstein Hwy. South, Sebastopol, California**

| Monitoring Well | Date   | TBA<br>(µg/L) | DIPE<br>(µg/L) | ETBE<br>(µg/L) | TAME<br>(µg/L) | Ethanol<br>(µg/L) | 1,2-DCA<br>(µg/L) | EDB<br>(µg/L) |
|-----------------|--------|---------------|----------------|----------------|----------------|-------------------|-------------------|---------------|
| MW-6            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | <2.5          | <0.5           | <0.5           | <0.5           | <1000             | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | <10           | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
| MW-7            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | <2.5          | <0.5           | <0.5           | <0.5           | <1000             | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | <10           | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | NA            | NA             | NA             | NA             | NA                | NA                | NA            |
| MW-8            | Mar-04 | <25           | <1.0           | <1.0           | <1.0           | NA                | NA                | NA            |
|                 | Nov-04 | <2.5          | <0.5           | <0.5           | <0.5           | <1000             | <0.5              | <0.5          |
|                 | Feb-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | May-05 | <2.5          | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Aug-05 | 11.60         | <0.5           | <0.5           | <2.0           | <1000             | <0.5              | <0.5          |
|                 | Nov-05 | <10           | NA             | NA             | NA             | NA                | NA                | NA            |

Notes:

The first time SOMA monitored this site was in the Fourth Quarter 2004.

NA: Not Analyzed. well MW-1 was buried due to construction activities  
and well MW-5 was inaccessible, due to blockage in well at 5 feet bgs

**Gasoline Oxygenates**

TBA: tertiary Butyl Alcohol  
DIPE: Diisopropyl Ether  
ETBE: Ethyl tertiary Butyl Ether  
TAME: Methyl tertiary Amyl Ether

**Alcohols**

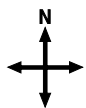
Ethanol  
Methanol Tested for in Fourth Quarter 2004, see Monitoring  
Report for results.

**Lead Scavengers**

1,2-DCA: 1,2-Dichloroethane      EDB: 1,2-Dibromoethane

By request of Sonoma County Department of Health Services,  
TBA was required in only the sample collected from well MW-8 in the Fourth Quarter 2005.

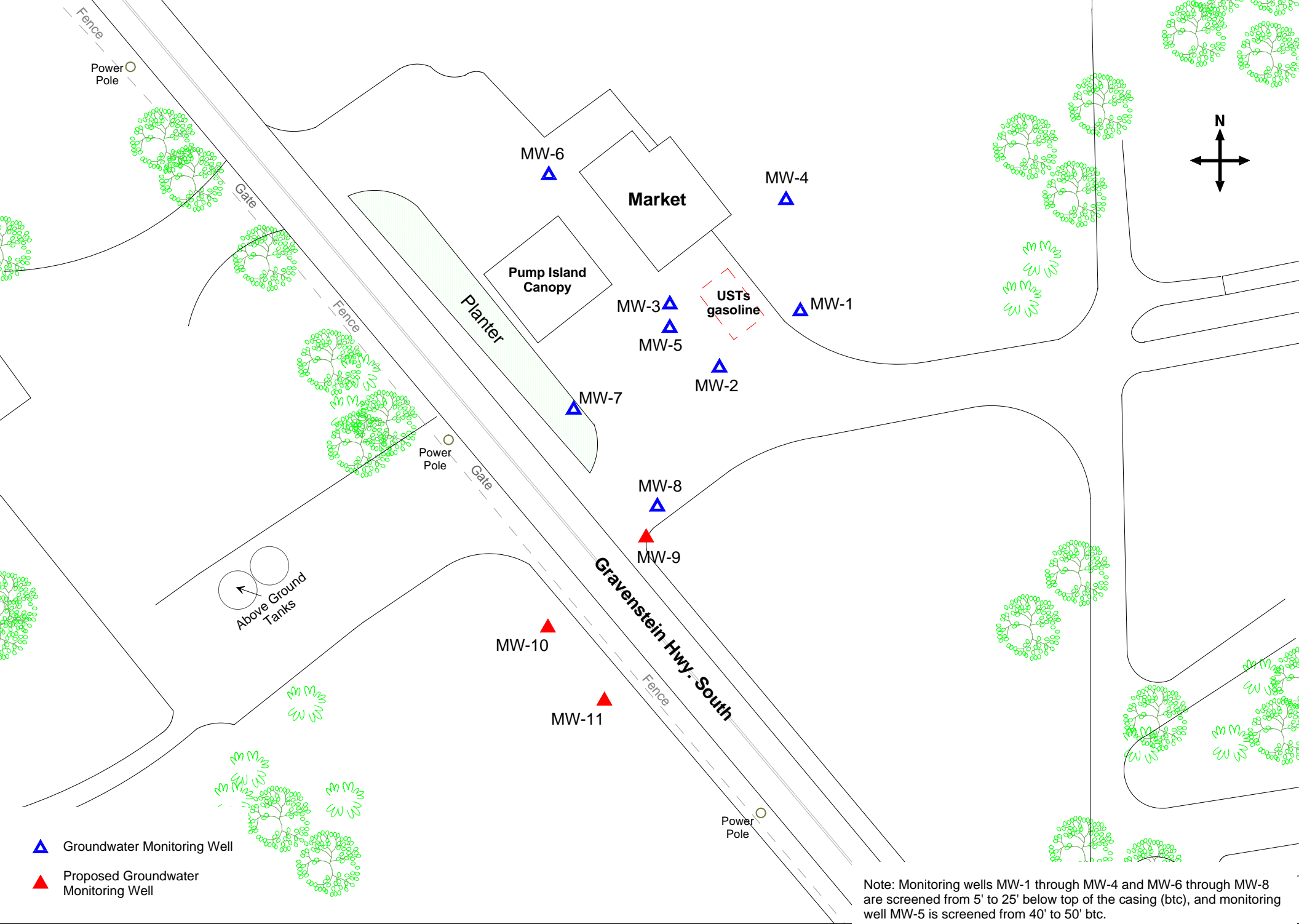
# Figures



approximate scale in feet  
0 70 140

Figure 1: Site vicinity map.

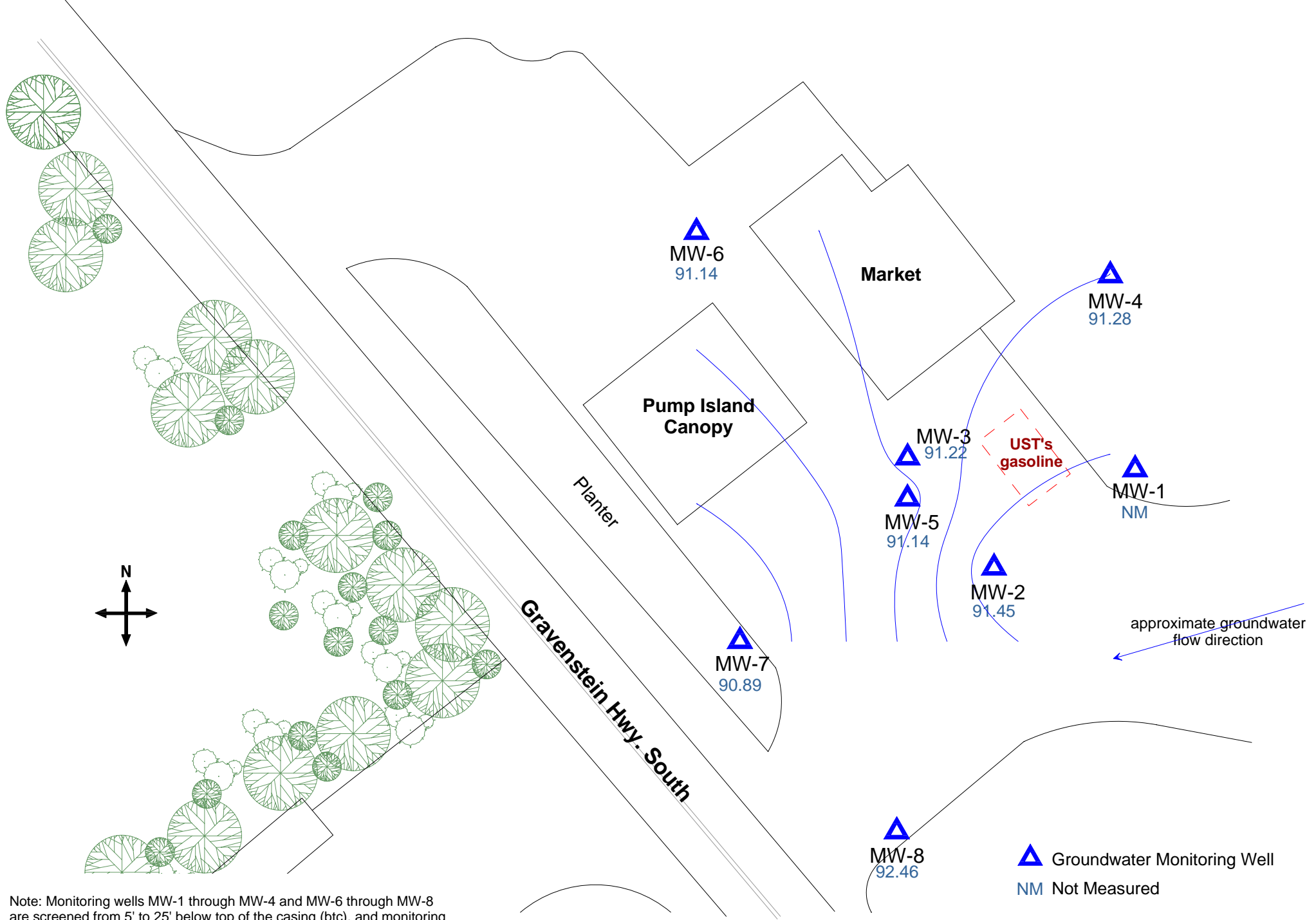




Note: Monitoring wells MW-1 through MW-4 and MW-6 through MW-8 are screened from 5' to 25' below top of the casing (btc), and monitoring well MW-5 is screened from 40' to 50' btc.

Figure 2: Site map showing location of groundwater monitoring wells.





Note: Monitoring wells MW-1 through MW-4 and MW-6 through MW-8 are screened from 5' to 25' below top of the casing (btc), and monitoring well MW-5 is screened from 40' to 50' btc. MW-8 was taken out of groundwater elevation contour.

Figure 3: Groundwater elevation contour map in feet.  
November 2005.

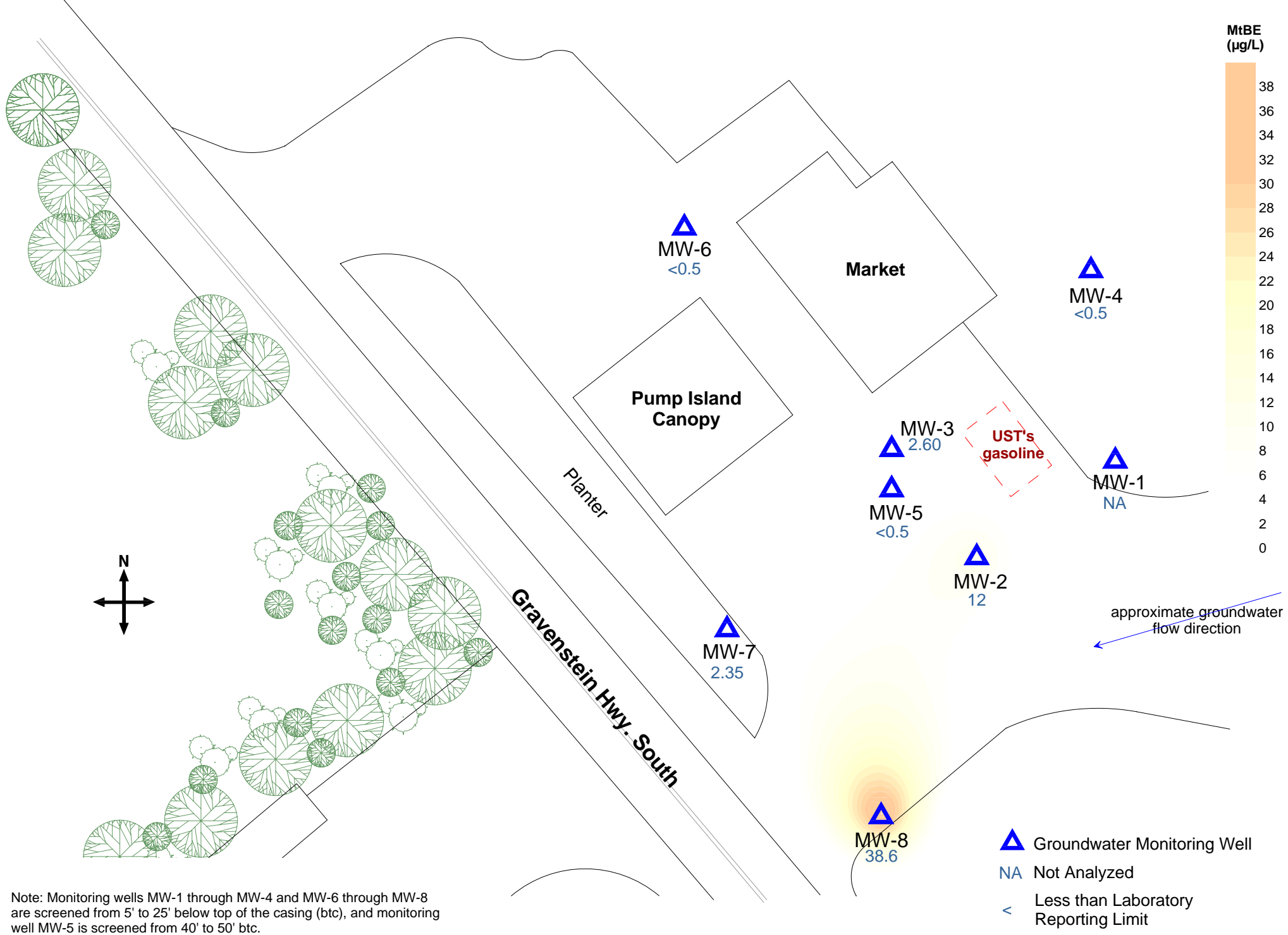


Figure 4: Contour map of MtBE concentrations in groundwater (EPA Method 8260B).  
November 2005.

# Appendix A

## SOMA's Groundwater Monitoring Procedures

## **Field Activities**

On November 1, 2005, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the SCDEH and the CRWQCB. During this groundwater monitoring event seven wells (MW-2 to MW-8) were monitored. Well MW-1 could not be located due to construction activities that covered the surface of the well with dirt.

The depth to groundwater in each monitoring well was measured from the top of the casing to the nearest 0.01 foot using an electric sounder. The top of the casing elevation data and the depth to groundwater in each monitoring well were used to calculate the groundwater elevation. The top of casing elevation was based on previous consultant data.

Prior to the collection of groundwater samples, each well was purged by using a battery operated 2-inch diameter pump (Model ES-60 DC).

During the purging of the wells, in order to ensure that the final samples were in equilibrium with (and representative of) the surrounding groundwater, several samples were taken for field measurements of pH, temperature and electrical conductivity (EC). The field measurements were tested using a Hanna pH, conductivity, and temperature meter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

Appendix B details the field measurements taken during the Fourth Quarter 2005 monitoring event.

The purging continued until these parameters stabilized or three casing volumes were purged. After purging, a disposable polyethylene bailer was used to collect sufficient samples from each monitoring well for laboratory analyses. The groundwater sample was transferred to four 40-mL VOA vials and preserved with hydrochloric acid. The vials were then sealed to prevent the development of air bubbles within the headspace.

After the groundwater samples were collected they were placed on ice in an ice chest and maintained at 4°C. A chain of custody (COC) form was written for all the samples. After the sampling was completed, on November 2, 2005, SOMA's field crew delivered the groundwater samples along with the COC form to Pacific Analytical Laboratory, in Alameda, California.

### **Laboratory Analysis**

Pacific Analytical Laboratory, in Alameda, California, a state-certified laboratory, analyzed the groundwater samples for MtBE. TBA was analyzed at well MW-8. All referenced constituents were analyzed using EPA Method 8260B.

# **Appendix B**

Field measurements of physical and chemical properties  
of the groundwater samples collected  
during the Fourth Quarter 2005



Well No.: MW-2  
 Casing Diameter: 2 inches  
 Depth of Well: 24.70 feet  
 Top of Casing Elevation: 101.08 feet  
 Depth to Groundwater: 9.63 feet  
 Groundwater Elevation: 91.45 feet  
 Water Column Height: 15.07 feet  
 Purged Volume: 8 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒  
 Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

#### Field Measurements:

| Time            | Vol                  | pH   | Temp  | E.C.    |
|-----------------|----------------------|------|-------|---------|
|                 | (gallons)            |      | (°C)  | (µS/cm) |
| 12:51 PM        | started purging well |      |       |         |
| 12:53 PM        | 1.5                  | 4.99 | 22.00 | 156     |
| 12:57 PM        | 4                    | 4.92 | 22.10 | 156     |
| 1:02 PM         | 8                    | 4.92 | 21.80 | 153     |
| Sampled 1:05 PM |                      |      |       |         |
|                 |                      |      |       |         |
|                 |                      |      |       |         |
|                 |                      |      |       |         |



Well No.: MU-3  
 Casing Diameter: 2 inches  
 Depth of Well: 24.90 feet  
 Top of Casing Elevation: 100.22 feet  
 Depth to Groundwater: 9.60 feet  
 Groundwater Elevation: 91.22 feet  
 Water Column Height: 15.30 feet  
 Purged Volume: 13 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒  
 Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

Field Measurements:

| Time     | Vol                  | pH   | Temp  | E.C.    |
|----------|----------------------|------|-------|---------|
|          | (gallons)            |      | (°C)  | (μS/cm) |
| 12:29 PM | Started purging well |      |       |         |
| 12:31 PM | 2.5                  | 5.40 | 22.30 | 146     |
| 12:35 PM | 7                    | 4.90 | 22.10 | 129     |
| 12:39 PM | 10                   | 5.02 | 21.60 | 143     |
| 12:44 PM | 13                   | 5.02 | 22.40 | 130     |
| 12:45 PM | sampled              |      |       |         |
|          |                      |      |       |         |
|          |                      |      |       |         |





Well No.: MW-4  
 Casing Diameter: 2 inches  
 Depth of Well: 24.65 feet  
 Top of Casing Elevation: 102.36 feet  
 Depth to Groundwater: 11.08 feet  
 Groundwater Elevation: 91.28 feet  
 Water Column Height: 13.57 feet  
 Purged Volume: 9.0 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒

Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

#### Field Measurements:

| Time    | Vol                  | pH   | Temp  | E.C.    |
|---------|----------------------|------|-------|---------|
|         | (gallons)            |      | (°C)  | (μS/cm) |
| 1:22 PM | started purging well |      |       |         |
| 1:24 PM | 2.0                  | 5.18 | 20.40 | 117     |
| 1:26 PM | 5.0                  | 5.25 | 19.50 | 117     |
| 1:29 PM | 9.0                  | 5.26 | 18.60 | 130     |
| 1:30 PM | sampled              |      |       |         |
|         |                      |      |       |         |
|         |                      |      |       |         |
|         |                      |      |       |         |



Well No.: MM-5  
 Casing Diameter: 2 inches  
 Depth of Well: 48.80 feet  
 Top of Casing Elevation: 100.60 feet  
 Depth to Groundwater: 9.46 feet  
 Groundwater Elevation: 91.14 feet  
 Water Column Height: 39.34 feet  
 Purged Volume: 19 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒

Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_

Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_

Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

#### Field Measurements:

| Time     | Vol                  | pH   | Temp  | E.C.    |
|----------|----------------------|------|-------|---------|
|          | (gallons)            |      | (°C)  | (µS/cm) |
| 11:53 AM | started purging well |      |       |         |
| 11:58 AM | 6                    | 6.93 | 20.80 | 443     |
| 12:04 PM | 10                   | 6.24 | 20.40 | 393     |
| 12:11 PM | 13                   | 5.95 | 20.20 | 374     |
| 12:18 PM | 16                   | 5.86 | 20.30 | 370     |
| 12:24 PM | 19                   | 5.87 | 20.20 | 367     |
| 12:27 PM | samples              |      |       |         |
|          |                      |      |       |         |



Well No.: MU-6  
 Casing Diameter: 2 inches  
 Depth of Well: 24.45 feet  
 Top of Casing Elevation: 99.72 feet  
 Depth to Groundwater: 8.58 feet  
 Groundwater Elevation: 91.14 feet  
 Water Column Height: 15.87 feet  
 Purged Volume: 10 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒  
 Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

#### Field Measurements:

| Time           | Vol                  | pH   | Temp  | E.C.    |
|----------------|----------------------|------|-------|---------|
|                | (gallons)            |      | (°C)  | (μS/cm) |
| 2:31 PM        | started purging well |      |       |         |
| 2:33 PM        | 2.0                  | 5.36 | 20.40 | 128     |
| 2:36 PM        | 7.0                  | 4.94 | 21.40 | 115     |
| 2:40 PM        | 10                   | 4.92 | 20.80 | 127     |
| SAMPLE 2:45 PM |                      |      |       |         |
|                |                      |      |       |         |
|                |                      |      |       |         |
|                |                      |      |       |         |



Well No.: MW-7  
 Casing Diameter: 2 inches  
 Depth of Well: 24.50 feet  
 Top of Casing Elevation: 99.30 feet  
 Depth to Groundwater: 8.41 feet  
 Groundwater Elevation: 90.89 feet  
 Water Column Height: 16.09 feet  
 Purged Volume: 8 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒  
 Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

#### Field Measurements:

| Time    | Vol                  | pH    | Temp | E.C.    |
|---------|----------------------|-------|------|---------|
|         | (gallons)            |       | (°C) | (µS/cm) |
| 1:43 PM | Started purging well |       |      |         |
| 1:45 PM | 1.5                  | 4.97  | 20.9 | 1959    |
| 1:49 PM | 5                    | 5.07  | 20.7 | 1966    |
| 1:50 PM | 7                    | DRIED |      |         |
| 1:54 PM | 8                    | 5.05  | 20.7 | 1976    |
| 1:55 PM | sampled              |       |      |         |
|         |                      |       |      |         |
|         |                      |       |      |         |



Well No.: MW-8  
 Casing Diameter: 2 inches  
 Depth of Well: 27.55 feet  
 Top of Casing Elevation: 98.78 feet  
 Depth to Groundwater: 6.32 feet  
 Groundwater Elevation: 92.46 feet  
 Water Column Height: 18.23 feet  
 Purged Volume: 18 gallons

Project No.: 2871  
 Address: 3705 Gravenstein Hwy, South  
 Sebastopol, CA  
 Date: November 1, 2005  
 Sampler: Mehran Nowroozi  
 Tony Perini

Purging Method: Bailer ☐ Pump ☒  
 Sampling Method: Bailer ☒ Pump ☐

Color: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Sheen: No ☒ Yes ☐ Describe: \_\_\_\_\_  
 Odor: No ☒ Yes ☐ Describe: \_\_\_\_\_

#### Field Measurements:

| Time    | Vol                  | pH   | Temp  | E.C.    |
|---------|----------------------|------|-------|---------|
|         | (gallons)            |      | (°C)  | (µS/cm) |
| 2:06 PM | Started purging well |      |       |         |
| 2:09 PM | 3.0                  | 5.38 | 21.90 | 378     |
| 2:11 PM | 6.0                  | 5.21 | 21.90 | 394     |
| 2:16 PM | 12                   | 5.33 | 21.40 | 596     |
| 2:22 PM | 18                   | 5.59 | 20.60 | 687     |
| 2:25 PM | Sampled              |      |       |         |
|         |                      |      |       |         |
|         |                      |      |       |         |

# **Appendix C**

Chain of Custody Form and Laboratory Report  
for the  
Fourth Quarter 2005 Monitoring Event

---

# PAL

Pacific Analytical Laboratory

851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

---

07 November 2005

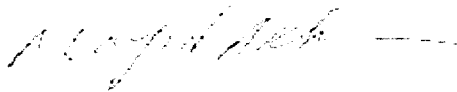
Mansour Sepehr  
SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton, CA 94588

RE: 3705 Gravenstein Hwy, Sebastopol

Work Order Number: 5110001

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,



---

Maïd Akhavan  
Laboratory Director

# CHAIN OF CUSTODY FORM

Page 1 of 1

**PAL** Pacific Analytical Laboratory  
 851 West Midway Ave., Suite 201B  
 Alameda, CA 94501  
 510-864-0364 Telephone  
 510-864-0365 Fax

PAL  
 Login# 5100001

| Project No: 2871  |           | Sampler: Tony Perini / Mehman Pourrooti       |          | Analyses/Method                       |                 |                    |                                |                  |             |             |
|---|-----------|---|----------|---------------------------------------|-----------------|--------------------|--------------------------------|------------------|-------------|-------------|
| Project Name: 3705 Gravenstein Hwy. S. Sebastopol                 |           | Report To: Tony Perini                        |          | MIBE 8260B                            |                 |                    |                                |                  |             |             |
| Turnaround Time: Standard   |           | Company: SOMA Environmental Engineering, Inc. |          | Gasoline Oxygenates & Lead Scavengers |                 |                    |                                |                  |             |             |
| Tel: 925-734-6400   |           | Fax: 925-734-6401                             |          |                                       |                 |                    |                                |                  |             |             |
| Lab No.   | Sample ID | Sampling Date/Time                            |          | Matrix                                | # of Containers | Preservatives      |                                |                  | Field Notes |             |
|   |           | Date  | Time     |                                       |                 | HCL                | H <sub>2</sub> SO <sub>4</sub> | HNO <sub>3</sub> |             |             |
| MW-2  |           | 11/1/05                                       | 1:05 PM  | X                                     | 4 VOAS          | X                  |                                |                  | X           | Grab Sample |
| MW-3  |           |   | 12:45 PM | X                                     | 4 VOAS          | X                  |                                |                  | X           |             |
| MW-4  |           |   | 1:30 PM  | X                                     | 4 VOAS          | X                  |                                |                  | X           |             |
| MW-5  |           |   | 12:27 PM | X                                     | 4 VOAS          | X                  |                                |                  | X           |             |
| MW-6  |           |   | 2:45 PM  | X                                     | 4 VOAS          | X                  |                                |                  | X           |             |
| MW-7  |           |   | 1:55 PM  | X                                     | 4 VOAS          | X                  |                                |                  | X           |             |
| MW-8  |           |   | 2:25 PM  | X                                     | 4 VOAS          | X                  |                                |                  | X           |             |
|   |           |   |          |                                       |                 |                    |                                |                  |             |             |
| Sampler Remarks:  |           | Relinquished by:                              |          | Date/Time:                            |                 | Received by:       |                                | Date/Time:       |             |             |
| EDF Output Required<br>TBA only on well MW-8<br>MIBE on all wells |           | Tony Perini                                   |          | 11/1/05 5 PM                          |                 | N. Pourrooti       |                                | 11/1/05 5 PM     |             |             |
|   |           | N. Pourrooti                                  |          | 11/2/05 10:10                         |                 | 11-2-05 pay N. PAL |                                | 11-2-05 10:12    |             |             |



SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3705 Gravenstein Hwy, Sebastopol  
Project Number: 2871  
Project Manager: Mansour Sepehr

**Reported:**  
07-Nov-05 12:04

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled    | Date Received   |
|-----------|---------------|--------|-----------------|-----------------|
| MW-2      | 5110001-01    | Water  | 01-Nov-05 13:05 | 02-Nov-05 12:57 |
| MW-3      | 5110001-02    | Water  | 01-Nov-05 12:45 | 02-Nov-05 12:57 |
| MW-4      | 5110001-03    | Water  | 01-Nov-05 13:30 | 02-Nov-05 12:57 |
| MW-5      | 5110001-04    | Water  | 01-Nov-05 12:27 | 02-Nov-05 12:57 |
| MW-6      | 5110001-05    | Water  | 01-Nov-05 14:45 | 02-Nov-05 12:57 |
| MW-7      | 5110001-06    | Water  | 01-Nov-05 13:55 | 02-Nov-05 12:57 |
| MW-8      | 5110001-07    | Water  | 01-Nov-05 13:25 | 02-Nov-05 12:57 |

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3705 Gravenstein Hwy, Sebastopol  
Project Number: 2871  
Project Manager: Mansour Sepehr

Reported:  
07-Nov-05 12:04

## Volatile Organic Compounds by EPA Method 8260B Pacific Analytical Laboratory

| Analyte   | Result | Reporting Limit | Units | Dilution | Batch   | Prepared  | Analyzed  | Method | Notes |
|---|--------|-----------------|-------|----------|---------|-----------|-----------|--------|-------|
| <b>MW-2 (5110001-01) Water</b> Sampled: 01-Nov-05 13:05 Received: 02-Nov-05 12:57 |        |                 |       |          |         |           |           |        |       |
| MTBE  | 12.0   | 0.500           | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |        | 0.173 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |        | 0.204 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |        | 0.190 %         | 0-200 |          | "       | "         | "         | "      |       |
| <b>MW-3 (5110001-02) Water</b> Sampled: 01-Nov-05 12:45 Received: 02-Nov-05 12:57 |        |                 |       |          |         |           |           |        |       |
| MTBE  | 2.60   | 0.500           | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |        | 0.173 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |        | 0.204 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |        | 0.190 %         | 0-200 |          | "       | "         | "         | "      |       |
| <b>MW-4 (5110001-03) Water</b> Sampled: 01-Nov-05 13:30 Received: 02-Nov-05 12:57 |        |                 |       |          |         |           |           |        |       |
| MTBE  | ND     | 0.500           | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |        | 0.171 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |        | 0.207 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |        | 0.191 %         | 0-200 |          | "       | "         | "         | "      |       |
| <b>MW-5 (5110001-04) Water</b> Sampled: 01-Nov-05 12:27 Received: 02-Nov-05 12:57 |        |                 |       |          |         |           |           |        |       |
| MTBE  | ND     | 0.500           | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |        | 0.172 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |        | 0.209 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |        | 0.190 %         | 0-200 |          | "       | "         | "         | "      |       |
| <b>MW-6 (5110001-05) Water</b> Sampled: 01-Nov-05 14:45 Received: 02-Nov-05 12:57 |        |                 |       |          |         |           |           |        |       |
| MTBE  | ND     | 0.500           | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |        | 0.168 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |        | 0.211 %         | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |        | 0.191 %         | 0-200 |          | "       | "         | "         | "      |       |

# PAL

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3705 Gravenstein Hwy, Sebastopol  
Project Number: 2871  
Project Manager: Mansour Sepehr

Reported:  
07-Nov-05 12:04

## Volatile Organic Compounds by EPA Method 8260B

### Pacific Analytical Laboratory

| Analyte   | Result      | Reporting<br>Limit | Units | Dilution | Batch   | Prepared  | Analyzed  | Method | Notes |
|---|-------------|--------------------|-------|----------|---------|-----------|-----------|--------|-------|
| <b>MW-7 (5110001-06) Water</b> Sampled: 01-Nov-05 13:55 Received: 02-Nov-05 12:57 |             |                    |       |          |         |           |           |        |       |
| <b>MTBE</b>   | <b>2.35</b> | 0.500              | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |             | 0.170 %            | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |             | 0.211 %            | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |             | 0.189 %            | 0-200 |          | "       | "         | "         | "      |       |
| <b>MW-8 (5110001-07) Water</b> Sampled: 01-Nov-05 13:25 Received: 02-Nov-05 12:57 |             |                    |       |          |         |           |           |        |       |
| <b>MTBE</b>   | <b>38.6</b> | 0.500              | ug/l  | 1        | BK50401 | 02-Nov-05 | 02-Nov-05 | 8260B  |       |
| Surrogate: 4-Bromofluorobenzene   |             | 0.166 %            | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Dibromofluoromethane   |             | 0.213 %            | 0-200 |          | "       | "         | "         | "      |       |
| Surrogate: Perdeuterotoluene  |             | 0.190 %            | 0-200 |          | "       | "         | "         | "      |       |
| TBA   | ND          | 10.0               | "     | "        | "       | "         | "         | "      |       |

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

Project: 3705 Gravenstein Hwy, Sebastopol  
Project Number: 2871  
Project Manager: Mansour Sepehr

Reported:  
07-Nov-05 12:04

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Pacific Analytical Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

#### Batch BK50401 - EPA 5030 Water MS

##### Blank (BK50401-BLK1)

Prepared: 04-Nov-05 Analyzed: 02-Nov-05

|                                 |      |       |      |       |  |       |       |  |  |  |
|---------------------------------|------|-------|------|-------|--|-------|-------|--|--|--|
| Surrogate: 4-Bromofluorobenzene | 44.1 |       | ug/l | 25000 |  | 0.176 | 0-200 |  |  |  |
| Surrogate: Dibromofluoromethane | 50.1 |       | "    | 25000 |  | 0.200 | 0-200 |  |  |  |
| Surrogate: Perdeuterotoluene    | 47.4 |       | "    | 25000 |  | 0.190 | 0-200 |  |  |  |
| TBA                             | ND   | 10.0  | "    |       |  |       |       |  |  |  |
| MTBE                            | ND   | 0.500 | "    |       |  |       |       |  |  |  |

##### LCS (BK50401-BS1)

Prepared: 04-Nov-05 Analyzed: 02-Nov-05

|                                 |      |       |      |       |  |       |       |  |  |  |
|---------------------------------|------|-------|------|-------|--|-------|-------|--|--|--|
| Surrogate: 4-Bromofluorobenzene | 47.8 |       | ug/l | 25000 |  | 0.191 | 0-200 |  |  |  |
| Surrogate: Dibromofluoromethane | 49.4 |       | "    | 25000 |  | 0.198 | 0-200 |  |  |  |
| Surrogate: Perdeuterotoluene    | 48.5 |       | "    | 25000 |  | 0.194 | 0-200 |  |  |  |
| TBA                             | 462  | 10.0  | "    | 2500  |  | 18.5  | 0-200 |  |  |  |
| MTBE                            | 95.1 | 0.500 | "    | 500   |  | 19.0  | 0-200 |  |  |  |

##### LCS Dup (BK50401-BSD1)

Prepared: 04-Nov-05 Analyzed: 03-Nov-05

|                                 |      |       |      |       |  |       |       |      |     |  |
|---------------------------------|------|-------|------|-------|--|-------|-------|------|-----|--|
| Surrogate: 4-Bromofluorobenzene | 48.3 |       | ug/l | 25000 |  | 0.193 | 0-200 |      |     |  |
| Surrogate: Dibromofluoromethane | 48.6 |       | "    | 25000 |  | 0.194 | 0-200 |      |     |  |
| Surrogate: Perdeuterotoluene    | 48.2 |       | "    | 25000 |  | 0.193 | 0-200 |      |     |  |
| TBA                             | 445  | 10.0  | "    | 2500  |  | 17.8  | 0-200 | 3.75 | 200 |  |
| MTBE                            | 101  | 0.500 | "    | 500   |  | 20.2  | 0-200 | 6.02 | 200 |  |

SOMA Environmental Engineering Inc.  
6620 Owens Drive, Suite A  
Pleasanton CA, 94588

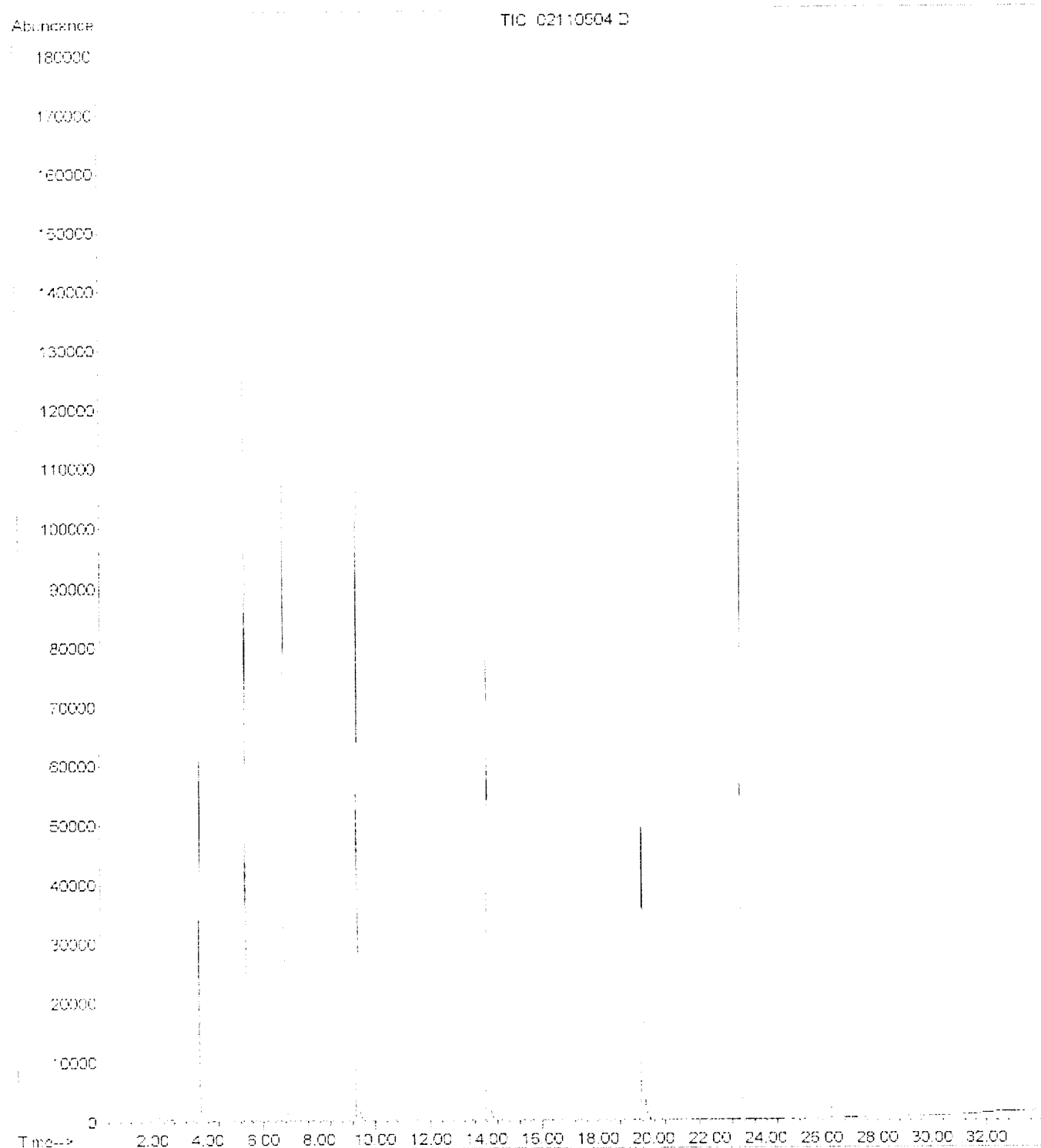
Project: 3705 Gravenstein Hwy, Sebastopol  
Project Number: 2871  
Project Manager: Mansour Sepehr

**Reported:**  
07-Nov-05 12:04

## Notes and Definitions

|     |  |
|-----|--|
| DET | Analyte DETECTED                                     |
| ND  | Analyte NOT DETECTED at or above the reporting limit |
| NR  | Not Reported   |
| dry | Sample results reported on a dry weight basis        |
| RPD | Relative Percent Difference                          |

File : C:\MSDCHEM\1\DATA\2005-Nov-02-1308.b\02110504.D  
Operator :  
Acquired : 2 Nov 2005 4:07 pm using AcqMethod VOCOX.Y.M  
Injection : PAL GUXE  
Sample Name: AK90-01-57.M  
Misc Info :  
Vial Number: 4



File : C:\MSDCHEM\1\DATA\2005-Nov-02-1308.b\02110502.D  
Operator :  
Acquired : 2 Nov 2005 2:28 pm using AcqMethod VOCOX.Y.M  
Instrument : PAL 6805  
Sample Name: 0550101-PS1.voc  
Misc Info :  
Vial Number: 2

